

The College of Health Care Professions: Impact Study on Hispanic Students

Adem Ekmekci, Ph.D.
Rice University
ekmekci@rice.edu

Alican Odemis
Rice University
ao33@rice.edu

2021

Table of Contents

Executive Summary	2
Introduction.....	3
Literature Review.....	4
Sample and Data Sources.....	5
Findings.....	5
Overview of programs	5
Graduation rates	7
Job placement rates	9
Economic mobility	10
Conclusion	15
References.....	17
About the Authors.....	19
About RUSMP	19

Suggested Citation:

Ekmekci, A., & Odemis, A. (2021, August). *The College of Health Care Professions: Impact Study on Hispanic Students*. Houston, TX: School Mathematics Project (RUSMP), Rice University.

This study is generously funded by the Taub Foundation and the Longaker Foundation,¹ two Houston-based community family foundations that share a commitment to support local workforce development and high-quality health care. The Taub Foundation supports medical research, health care, education and community organizations. The Longaker Foundation's mission is to provide educational funding to schools and other qualified educational programs.

¹ The Longaker Foundation also hosts the Dr. Ann Eady Aspiring Professional Memorial Scholarship Fund, which is supported by donations in memory of Dr. Ann Eady, CHCP's provost, who tragically passed away last year from complications related to COVID-19. Eady scholarships are awarded directly to students to offset their living expenses.

Executive Summary

This report provides results from an evaluation and impact study of The College of Health Care Professions (CHCP). As an allied health care education and training college, CHCP's goal is to help students develop the skills they need to meet the demands of today's health care industry and enter pathways to promising careers that are right for them. The unique and significant characteristics of CHCP—its large Hispanic student body, its large student population older than typical college age, its large first-generation student population, and its large group of students with various life difficulties including being a single parent, unemployed, homeless, having financial difficulties, etc.—drive the need for studying CHCP's impact. Hispanic students represent the largest minority population in the nation and in the higher education system. Moreover, the fast growth rate of Hispanic student enrollment in higher education in the U.S. makes it vital to analyze their college attendance, graduation, and job market experience following graduation. CHCP provides a unique opportunity to study Hispanic students' college outcomes. Student outcomes including graduation and job placement rates and students' economic mobility (earning gains from pre-enrollment to postgraduation with inflation adjusted comparisons) are reported for Hispanic students. CHCP's outcomes are compared to national and Texas statewide outcomes, where possible.

The study is independently conducted by Rice University Mathematics School Project (RUSMP) researchers with the data set that CHCP generously provided on its Hispanic graduates. The sample for the study included Hispanic students who were enrolled in any CHCP program anytime between 2012 and 2018. The data sources for the study included CHCP student data collected by CHCP and data from students' Federal Student Aid (FAFSA) application at the time of their CHCP enrollment. Job placement data including third-

party-verified earnings were collected after graduation. Descriptive statistics were used to explore graduation rates, job placement rates, and earnings by different job categories and by CHCP programs. Where appropriate, these areas of investigation were further broken down by gender, type of program, and parent education to understand CHCP's impact on females (due to significant gender discrepancies in earnings in workforce) and on first-generation students.

Select Findings of the Study

There were 6,398 Hispanic students in the data set who started a program at CHCP between January 2012 and December 2018. The following highlight the findings of this study:

- The overall graduation rate for Hispanic students who were admitted into a CHCP program between 2012 and 2018 is 78%.
- The female graduation rate is remarkably higher than that of males (80% vs. 67%).
- About 80% of the CHCP graduates were placed in jobs in their field of study.
- Job placement rate of first-generation college graduates is the same as the entire sample: 80%.
- Certificate program graduates experienced a \$17,479 increase, on average, in annual earnings.
- Associate program graduates experienced a \$31,021 increase, on average, in annual earnings.
- For both certificate and associate program graduates, after graduation annual earnings were 300% of pre-college earnings.
- The increase in earnings were greater for females (about 3.1 times for females and about 2.5 times for males).

Introduction

The College of Health Care Professions (CHCP) is an allied health care education and training college. CHCP's goal is to help students develop the skills they need to meet the demands of today's health care industry and enter pathways to promising careers that are right for them. Founded 30 years ago in collaboration with the MacGregor Clinic, CHCP has grown to become the largest provider of allied health care training in Texas, preparing learners for careers in areas such as sonography, surgical technology, medical assisting, and healthcare management. CHCP's accredited programs have been developing health care professionals for over 30 years. Its faculty have real-world, on-the-job experience and are committed to helping all of their students succeed.

CHCP provides training structured to meet working adults' needs. Learners start in short-term, stackable, industry-recognized certificate programs that count toward associate and bachelor's degrees. Programs are flexible, with a wide range of online, in-person, blended, and hybrid options to fit learners' schedules. Programs are integrated with work experiences to prepare learners to immediately enter an allied health career. Learners receive holistic and 24/7 advising to help them with their academic work as well as other challenges they face in their lives. The variety of programs provides a rich environment for students to choose whichever path they want to follow.

Unlike almost all other institutions of higher education, CHCP did not face much difficulty in transitioning to all-remote education during the COVID-19 pandemic. As a result of its already-in-place infrastructure, the transition

was very quick and almost seamless. Moreover, CHCP student enrollment increased during the pandemic. That was a notable happening because there was a nationwide enrollment decline in two-year and four-year colleges in fall 2020 (Amour, 2020). The decline in enrollment was the steepest for community colleges with a decline rate reaching more than 15% in spring 2021, according to a National Student Clearinghouse report (Causey et al., 2021).

CHCP's mission is to prepare, graduate, and place aspiring professionals in today's health care workplace. More importantly, CHCP provides great opportunities to people from historically underrepresented ethnic, racial, and socioeconomic backgrounds. Student demographic breakdown for the past 12 months is 57% Hispanic, 21%

CHCP's goal is to help students develop the skills they need to meet the demands of today's health care industry and enter pathways to promising careers that are right for them.

African American, 17% White, 2% Asian, and 3% other. In addition, 74% of its students are first-generation college students. CHCP's demographic makeup surpasses most of the minority-serving institutions in Texas and the country.

Moreover, the percentage of Hispanic students at CHCP is more than most of the other Hispanic-serving institutions in Texas and the country. That demographic data indicates that CHCP contributes to addressing a serious problem in the U.S.—underrepresentation in science, technology, engineering, and mathematics (STEM) education.

Furthermore, age intervals of students served indicates that less than one-third of the students are of regular college age (17–22 years old). About 40% are between 23 and 30 years old. Close to 30% are over 30 years old. That demographic information implies that CHCP does a significant job in filling the need for people who cannot move through an academic college track because of

various life difficulties including being a single parent, unemployed, or homeless or having financial difficulties or other conditions. The unique and significant characteristics of CHCP explained thus far initiated the need for studying its impact on its largest student body: Hispanic students.

The remainder of this report includes a review of related literature, data source and method of analysis, findings, and concluding remarks.

Literature Review

It is known that Hispanic students represent the largest minority population in the nation and in the higher education system. According to Hanson (2021), Hispanic students attending two- or four-year colleges exceeded four million and constituted 19.5% of all college admissions in the U.S., a 442% increase since 1976.

Looking into more recent years, from 2000 to 2016, total college enrollment rates increased for White students from 39% to 42%, African American students from 31% to 36%, and

Hispanic students from 22% to 39% (de Brey et al., 2019). Given the fast growth rate of Hispanic student enrollment in higher education in the U.S., it is crucial to analyze their college attendance, graduation, and job market experience following graduation.

Bailey et al. (2015) asserts that less than 40% of certificate or associate program attendees finish their degrees within six years of admission. The low completion rate is one of the biggest problems for community colleges for certificate and associate programs. Many factors contribute to the low completion rate in those programs, such as financial constraints, family background, and the environment those colleges provide. Levesque (2018) claims that because a large share of community college

students are from low-income households, an increase in graduation rate of those programs may substantially improve labor market outcomes of students, because it is an established fact in the literature that a higher degree beyond a high school diploma is associated with better labor market outcomes including earnings. Therefore, improving the graduation rate of community colleges' certificate and associate programs is very likely to play a pivotal role in determining students' prospects in the labor market. That, in turn, has great potential to yield an upward economic mobility. Likewise, Holzer and Baum (2017) shows that a credential degree is associated with 30% higher earnings compared to a high school diploma.

Focusing on the Hispanic student population in higher education, according to Liu (2011), 50% of Latino students in two-year colleges in Florida complete their degrees within three years compared to only 17% in New York. The same study reveals that the graduation ratio for

Latinos is 33% in Texas. Shapiro et al. (2017) similarly notes that Hispanic students' nationwide completion rate at two-year public institutions was 33% for the fall 2010 cohort. They also

demographically breakdown this percentage and show that male Hispanic students had a 29.9% completion rate in two-year public institutions, while the same percentage for their female counterparts was more than one-third.

Among many factors, family background seems to be the most important contributing factor determining the destiny of Hispanic students toward and in college. Liu (2011) indicates that the majority of Hispanic college students are first generation. For instance, 50% of Hispanic undergraduate students' parents have never attended or completed a higher education degree. Because family background plays a crucial role in determining student college admission, graduation, and their

Hispanic students have the fastest-growing rate in two- to four-year college enrollment from 2000 to 2016 (22% to 39%).

subsequent educational outcomes, Hispanic students face major challenges in both enrolling and completing postsecondary degrees.

Unsurprisingly, even though students graduated from these programs, there is still an uncertainty about their job placements and earnings. Students' earnings vary considerably with respect to the program they complete. Belfield and Bailey (2017) indicate that among associate degree holders, highest upward economic mobility is observed in health-related fields. The same study also indicates that earnings of certificate holders vary considerably among states. Schneider (2012) analyzed students' earnings after graduating from a two-year public college in Texas and found that the college itself has a great impact on students' earnings. Students' first year earnings are claimed to vary from \$20,000 to \$65,000 depending on the college and program.

The study is independently conducted by RUSMP researchers with the data set that CHCP generously provided on its Hispanic Graduates.

Sample and Data Sources

The study is independently conducted by Rice University Mathematics School Project (RUSMP) researchers with the data set that CHCP generously provided on its Hispanic graduates. The sample for the study included Hispanic students who were enrolled in any CHCP program anytime between 2012 and 2018. CHCP provided its data to RUSMP on its Hispanic student demographics, characteristics, school-related outcomes, and earnings.

The data sources for the study included CHCP student data collected by CHCP and data from students' Federal Student Aid (FAFSA) application at the time of their CHCP enrollment. Job placement data were collected immediately after graduation. CHCP follows up with its graduates within six months of graduation to obtain their

salary information (for those who were placed in jobs at graduation) and all students' job status. CHCP collects salary information in two ways: self-reported and employer reported. In addition, job placements are third-party verified with the employer. Further, salary information is adjusted by average inflation rates provided by the U.S. Bureau of Labor Statistics. Last, national and statewide studies are also included for comparison.

Data from different sources provided above are merged by student ID. Descriptive statistics were used to explore graduation rates, job placement rates, and earnings by different job categories and by CHCP programs. Where appropriate, these areas of investigation were further

broken down by gender, type of program, and parent education to understand CHCP's impact on females (due to significant gender discrepancies in earnings in workforce), on students with dependents (those for whom it is

exceptionally hard to obtain credentials to improve their economic power), and on first-generation students.

Findings

In this study, we report on three main student outcomes: graduation rates, job placement rates, and economic mobility (earning gains from pre-enrollment to after graduation). Findings are presented in the following order: overview of CHCP's programs, students' graduation rates, job placement rates, and earning gains.

Overview of Programs

There were a total of 6,398 Hispanic students in the data set who started a program at CHCP between January 2012 and December 2018. Programs varied in type and duration from nine months (certification programs) to 18

months (associate degrees) ². The majority of CHCP's students graduated from certificate programs (92% of the students), whereas 8% graduated with associate degrees (see Figure 1).

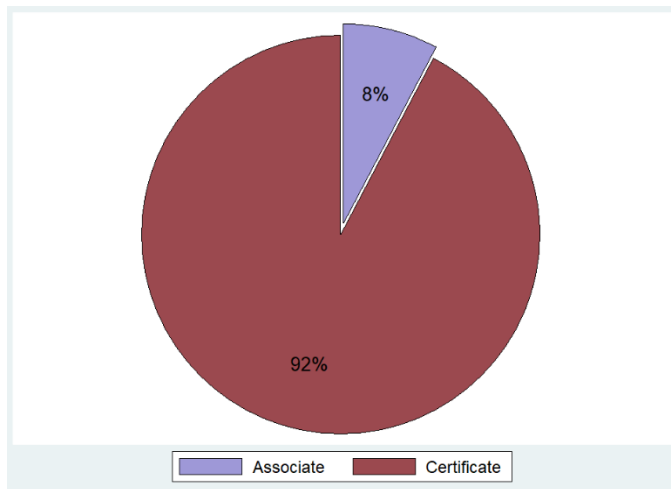


Figure 1. Percentage of graduated students across programs

In this study, 369 students were graduating from associate degree programs and 4,467 students were graduating from certification programs between 2012 and 2018. This study specifically focuses on the impact of certificate and associate programs. Certificate programs included dental assistants, medical ultrasound, limited medical radiologic technologist, massage therapy, medical assistants, medical coding and billing, medical office specialist, fitness trainer, pharmacy technician, physical therapy technician, sterile processing technician, surgical technologist, and vocational nurse. On the other hand, associate degree programs included nursing, cardiovascular sonography, diagnostic medical sonography, diagnostic medical ultrasound, network and system administration, and surgical technology.

² This study encompasses the residential, hybrid and blended program education outcomes for CHCP's Houston, McAllen, San Antonio, Austin and Fort Worth campuses." We need to be clear it does not include fully online or the Dallas campus.

Most certificate programs vary in length at CHCP with eight to 10 months in duration. In certificate programs, 3,797 students graduated within a 12-month period; however, 2,291 of them graduated in no more than eight months.

Associate programs vary in length from 12 to 18 months. In associate degree programs, 328 students remained in the program for at least 17 months, and 211 of those students graduated between 21 to 24 months after enrollment (see Figure 2).

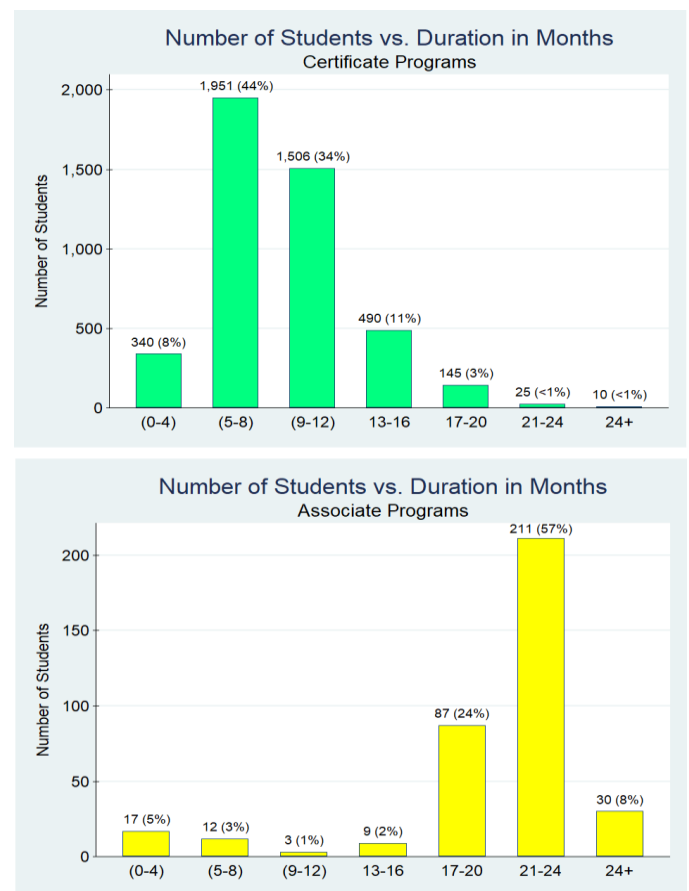


Figure 2. Duration of completions by program type

Graduation Rates

The average graduation rate for Hispanic students who were admitted to a CHCP program between 2012 and 2018 was 78% (see Figure 3). Disaggregating the graduation rate of students with respect to their program, we find that students admitted to certification programs were more likely to graduate than their associate counterparts. Certification students' graduation rate was 79%; however, the percentage for associate degree programs' students remained at 63% (see Figure 4). Both of those percentages are still above statewide and nationwide comparisons.

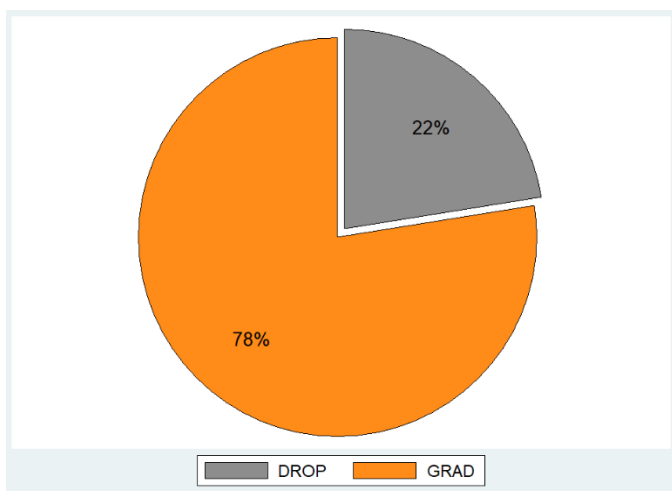


Figure 3. Overall graduation rates from 2012 to 2018

According to Shapiro et al. (2018), 35.7% of Hispanic students who started their education at two-year public institutions in 2012 in the U.S. graduated within six years. However, the graduation rate for associate program students who were admitted to a CHCP program between 2012 and 2018 was 63%. Moreover, the majority of CHCP students completed their associate degrees in less than 24 months. Although the degree of variability of programs included in the Shapiro et al. (2018) study may be different from that of CHCP, the graduation rate and duration of CHCP students seems to be significantly and positively different. That may be attributable to CHCP's wraparound services.

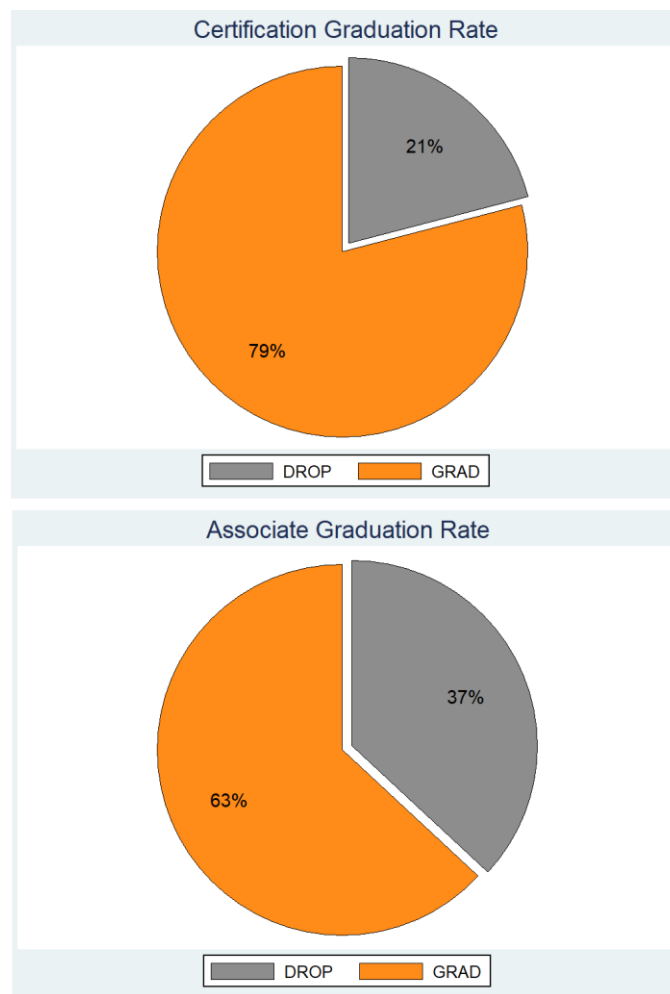


Figure 4. Graduation rates with respect to program type

More importantly, Hispanic CHCP students differ considerably from other two-year colleges in terms of students' age composition. Shapiro et al. (2018) asserts that a majority of students who started at two-year public institutions in the U.S. as of 2012 were 20 years old or younger. The majority of the students at CHCP are older than age 20, indicating that CHCP provides an opportunity for those who never had a chance to attend college on time. Another way that CHCP serves predominantly underrepresented minority group is to note the students' average income level before they attend CHCP programs. That is well below the median earnings of a person with a high school diploma in the U.S.

Unsurprisingly, the findings indicate that the majority of CHCP Hispanic students are first-generation college students. Only 26% of students had at least one parent who had college or higher degree (see Figure 5).

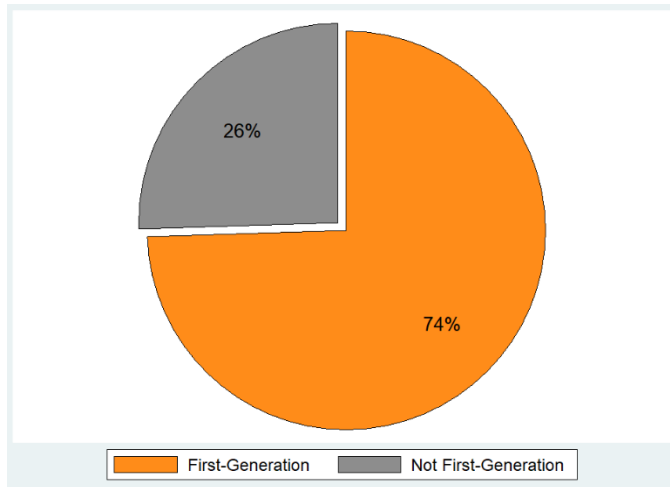


Figure 5. First-generation college students

Moreover, the graduation rate of the first-generation students is almost the same as the entire Hispanic student sample, implying an important retention finding for first-generation students (see Figure 6).

McGraw-Hill (2019) claims that there is a serious opportunity gap among first-generation students. In addition, research indicates first-generation students typically have higher dropout rates (Pascarella et al., 2004; Ishitani, 2006; Martinez et al., 2009). However, that was not the case for CHCP students. The percentage of first-generation students in the student body of CHCP and their graduation rates imply CHCP’s significant positive impact on society such as serving underprivileged communities.

Shapiro et al. (2017) found that the graduation rate for Hispanic students enrolled in two-year public institutions was 33%. Shapiro et al. (2017) also indicated that the dropout rate for Hispanic students was 44.8%. Moreover, Hispanic male students had approximately a 30%

completion rate and 48% dropout rate, whereas one-third of Hispanic female students completed the degree, and only 40.7% dropped out of school.

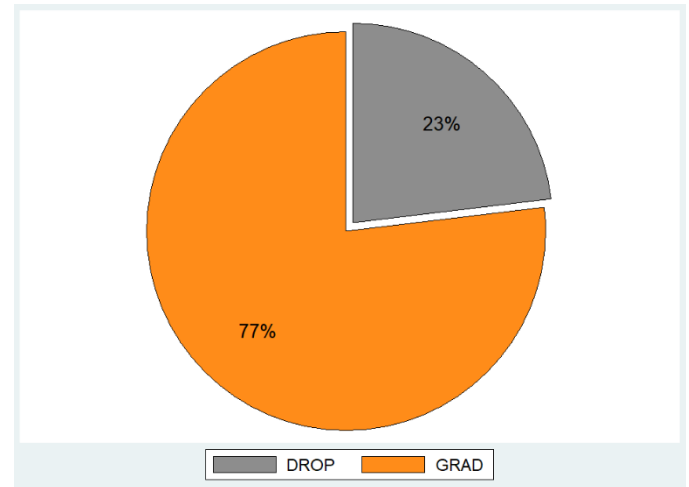


Figure 6. Graduation rate of first-generation college students

In the CHCP Hispanic student sample, we observe a similar pattern in graduation rates across gender along with a much higher graduation rate and much lower dropout rate for both genders. Female students do not only comprise the majority of students but also are more likely to graduate from CHCP programs than male students. From 2012 to 2018, 5,410 females attended CHCP programs compared to only 981 male students. The graduation rate for female students was 80% during that period, while the male graduation rate remained at 67% (see Figure 7). Both of the graduation percentages are above the national average of Hispanic student graduation rates (McGraw-Hill, 2019; Shapiro et al., 2017).

The female graduation rate is remarkably high at CHCP in comparison to both males in our sample and to Hispanic males and females in other comparison studies. It is particularly important to note the role that CHCP plays in contributing to female students’ education and labor force participation level.

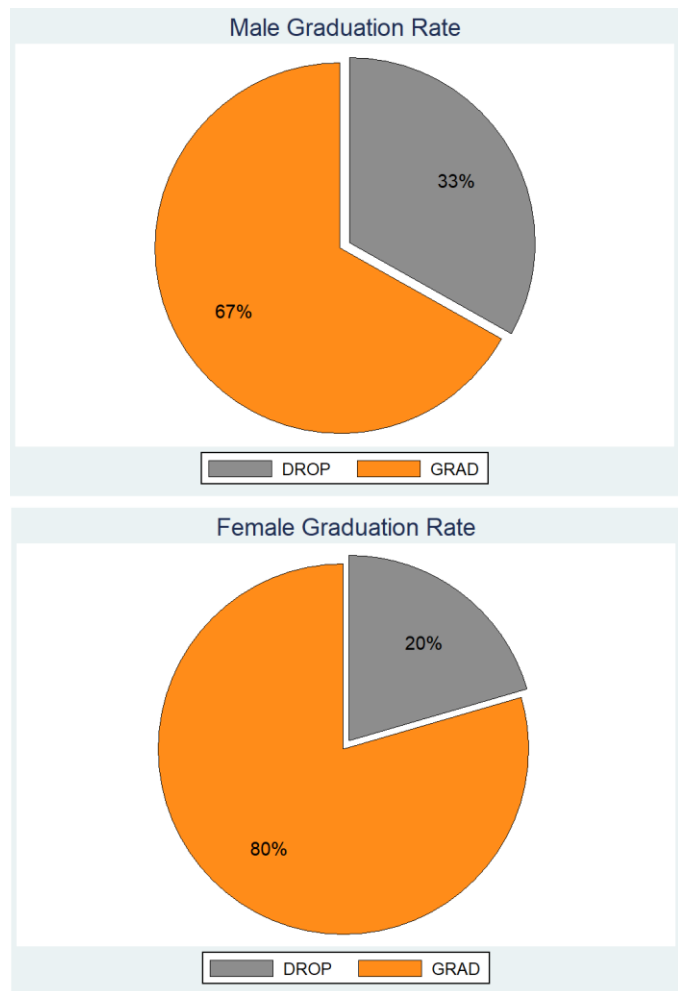


Figure 7. Graduation rates across gender

Job Placement Rates

After establishing the fact that the graduation rate of Hispanic students is considerably high for CHCP, it is important to underscore the job placement rate of CHCP graduates. Graduating from offered programs is one aspect of its social contribution, but being employable is more critical than solely graduating. About 80% of the CHCP graduates were placed in jobs in their fields of study from 2012 to 2018 (see Figure 8).

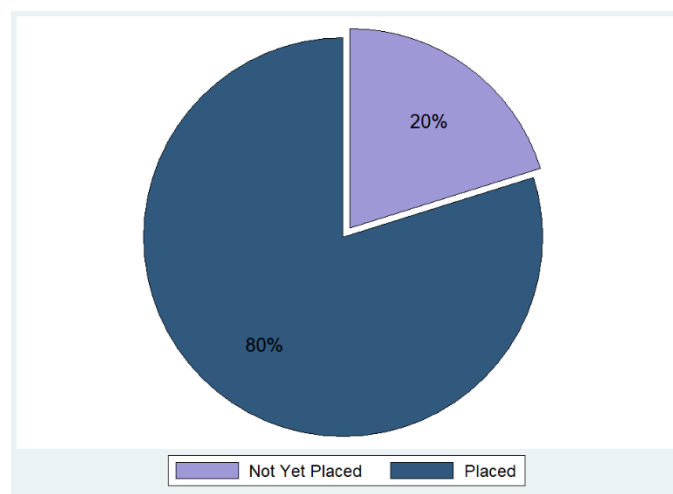


Figure 8. Placement rates of CHCP graduates

As we previously indicated, 79% of certification program students and 63% of associate degree program students graduated from CHCP. Among the 63% of the associate degree students who graduated from CHCP, 76% were placed in jobs, whereas 80% of certification degree holders were placed in jobs among the 79% who graduated (see Figure 9).

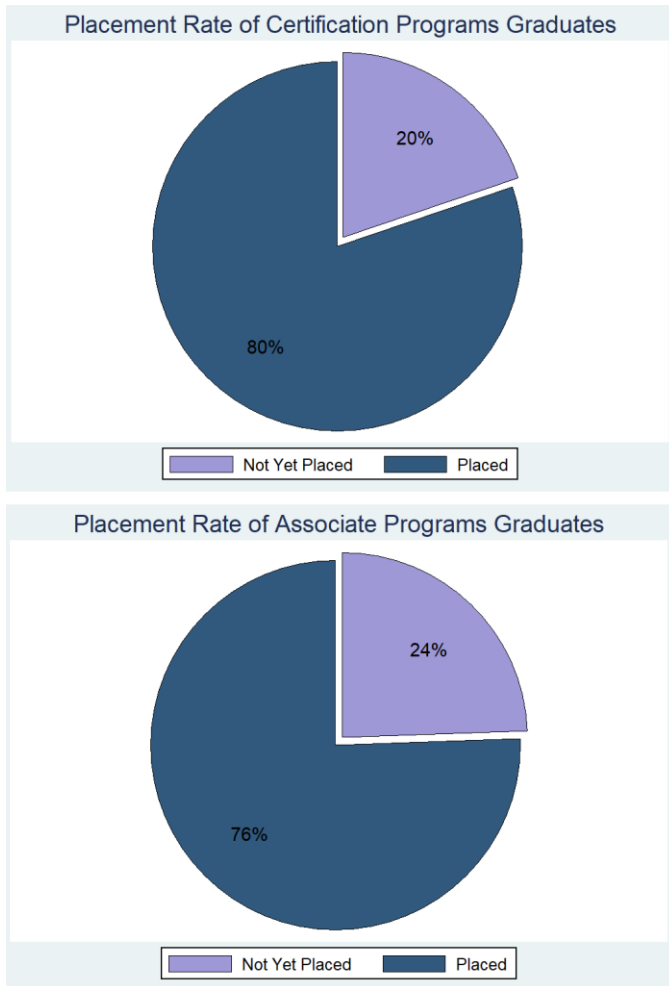


Figure 9. Placement rates of CHCP graduates by degree type

It is critical to note that the placement rate of first-generation college graduates is the same as for the entire sample: 80%. Therefore, being a first-generation college student did not prove to be a disadvantage against either graduation rate or job placement for CHCP Hispanic graduates. Additionally, we observed that female students' job placement rate is higher than male graduates when the graduation rate is disaggregated by gender. The job placement rate of male students remained at 77%; however, female students' placement rate was 80% (see Figure 10).

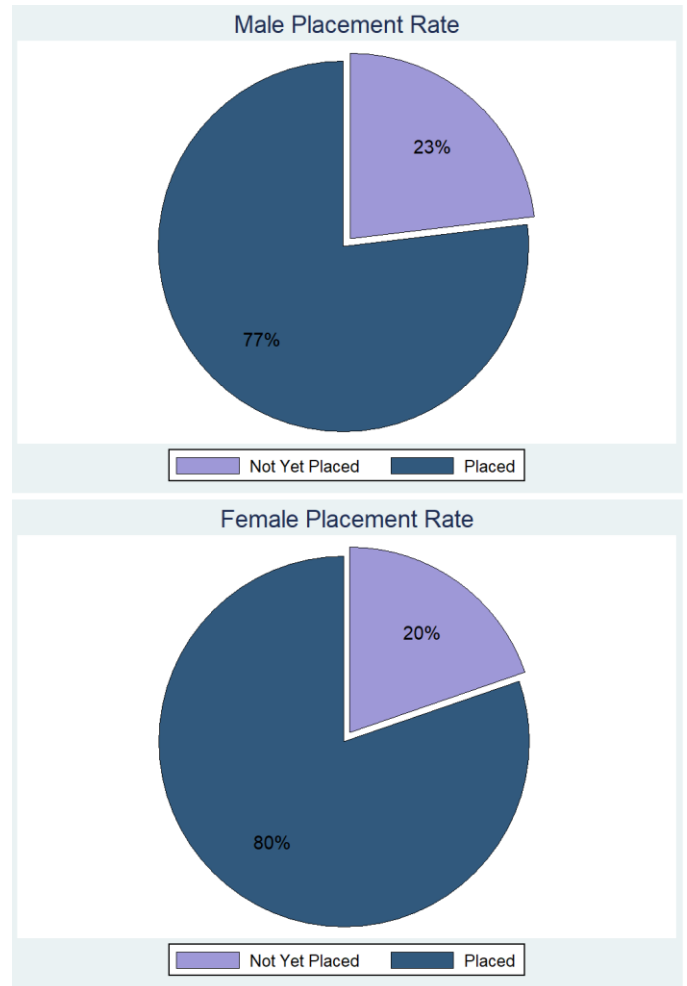


Figure 10. Placement rates across gender

Economic Mobility

After investigating CHCP's Hispanic graduates' graduation rate and employability, we find it valuable to show these students' labor market performance in terms of their earnings. Given that students reported their earnings before starting CHCP programs and CHCP collected information about students' earnings after they were placed in a job (which was also third-party verified), we were able to compare the difference and extract CHCP's contribution to students' earnings.

At this point, it is critical to explain how we converted the nominal values—in other words, dollar amounts into inflation adjusted values. All the dollar amounts related to variables including students’ earnings before attending CHCP programs and their annual salaries after they were placed in jobs are associated with the respective years they were reported. We took those values along with the year they were reported into consideration by adjusting those values with respect to the inflation rate to calculate the most current and standardized dollar amounts that are comparable. To do so, we used the Consumer Price Index Inflation Calculator that the U.S. Bureau of Labor and Statistics provides. We were very conservative in this calculation because we did not want to confound the analysis with any potential misleading computation in the normalization process.

The variables that are expressed in dollar amounts are adjusted with respect to inflation rates by using the Consumer Price Index Inflation Calculator that the U.S. Bureau of Labor and Statistics provides.

Because the enrollment date varies within a year, we based pre-enrollment earning values on the previous year’s twelfth month for the inflation adjuster. This way, students’ prior incomes are not understated in the comparison when calculating inflation adjustments for the earnings they reported before attending any CHCP program. For example, if students stated their 2012 incomes, we considered those incomes as if they were stated in December 2011 so that the inflation adjusted amounts are probably bigger and definitely not smaller than the actual amounts reported with respect to the year they were reported. We basically based students’ income on the previous year’s twelfth month rather than the year their incomes were reported.

In a similar manner, we adjusted students’ earnings after they graduated from a CHCP program and placed in their first jobs in a way that is again conservative and avoids any potential overestimates that would cause misleading

comparisons. For instance, if students reported their income in 2019, we considered those incomes as if they were stated in March 2020 so that the inflation-adjusted dollar amounts were smaller than the actual amounts reported with respect to the year they were reported. We considered the dollar amounts students reported after they were placed in jobs as if the amounts were reported in the next year’s third month.

In doing so, we leaned toward overstating, rather than understating, students’ income prior to their admission in CHCP programs and towards understating, rather than overstating, their earnings after they graduated from CHCP programs and placed in a job. Therefore, any comparison including students’ earnings before attending CHCP programs and after they were placed in jobs were based on this

conservative adjustment. The adjusted values were a necessity to be able to compare any educational outcome that is expressed in dollar amounts. Any dollar amount we compare from this point on is expressed in the most recent inflation-adjusting time period on the U.S. Bureau of Labor Statistics’ inflation calculator, namely June 2021.

On average, students enrolled in CHCP programs experienced a considerable jump in their annual earnings. Certificate program graduates experienced a \$17,479 increase in annual earnings. The same increase in annual earnings was \$31,021 for associate program graduates. It is important to note that most of the students not only had steady predictable hours but also received benefits and additional income through bonuses and overtime hours; however, we didn’t have information on those earnings that have the potential to cause a downward bias in the claims we are descriptively making. One should also note that most of the student earnings are self-reported and third-party verified wherever possible.

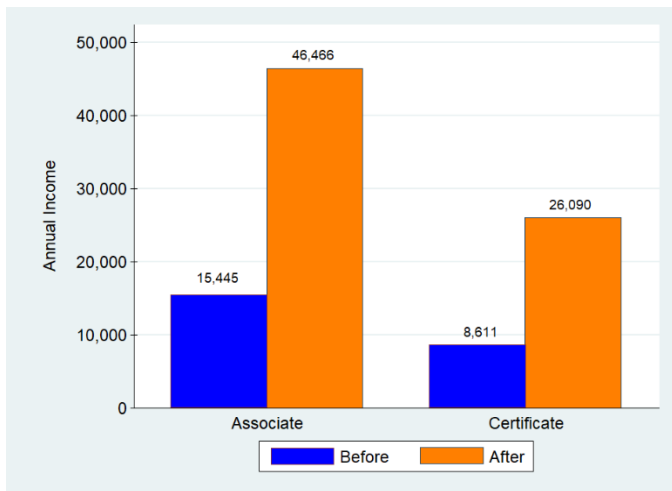


Figure 11. Students' annual income

Average annual income of students who attended certificate programs was \$8,611 before they started the program and \$26,090 after their first job placement. For associate degree graduates, the average income before attending a CHCP program was \$15,445 and \$46,466 after the first placement (see Figure 11). In both programs, the increase in annual earnings was more than 200%, tripling students' annual earnings after graduation.³

We observe a similar pattern for the first-generation college students in comparing change in income. For associate degree holders, the average income before attending college was \$16,003 and \$46,600 after their first job placements (see Figure 12). For certificate degree holders, the same number before college was \$8,302 and \$26,138 after the first job placements, indicating that first-generation students' income increase is no different from the average of CHCP graduates. Given first-generation college students' graduation rates, placement rates, and income increase, they experienced a significant upward shift in their socioeconomic status, underscoring the fact

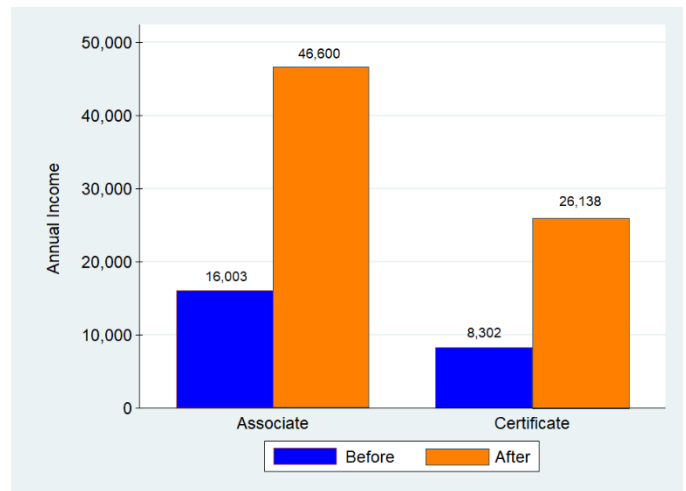


Figure 12. First-generation students' annual income

that the programs offered at CHCP provided a fertile ground for economic mobility across different layers of society.

The income increase in CHCP graduates differs considerably by gender. Male students' income levels before enrolling at CHCP are higher than their female counterparts' (see Figure 13). After graduation from CHCP programs (certificate or associate degree), male students experience higher income levels. However, one should be careful in interpreting that difference, because although male students in both certificate and associate degree programs seem to make more money after graduation, the percentage increase in income is much higher for female students. For instance, on average, male graduates of CHCP's associate programs are earning 2.5 times what they were earning prior to attending CHCP's associate program, whereas the same ratio for female associate degree holders is 3.13. A similar scenario occurs for the certificate degree holders. For example, on average, male CHCP certificate degree holders are earning 2.32 times what they were earning before CHCP;

³ Students' annual income graph is plotted for placed students only. Other students who graduated from the program but had not yet been placed are excluded.

however, female certificate degree holders, on average, are earning 3.17 times what they were initially earning. Although the income jump is astonishing for both groups, the comparison indicates that these programs increase female students' earnings more percentage-wise. The gender gap in earnings is present both before and after graduation; however, because female students experience a higher percentage increase in their earnings, the gap in earnings between the genders gets smaller—meaning that these degrees help society establish economic equality by gender. We observe a similar pattern in first-generation college graduates.

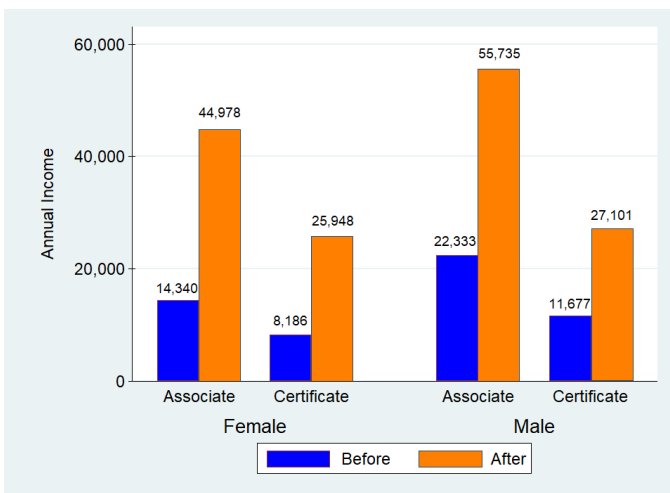


Figure 13. Students' annual income by gender

Last, we wanted to show CHCP graduates' annual salary with respect to their occupations (see Figure 14).⁴ Given that each of those salary levels is significantly different from what students previously earned, some occupations have more return than others. Registered nurse, medical sonographer and ultrasonographer, and licensed vocational nurse are the top three job titles in terms of annual salary. CHCP graduates working in those occupations are earning \$70,393, \$48,773, and \$47,699,

respectively. The annual salary that the rest of the graduates earn with respect to their jobs is listed in Figure 14.

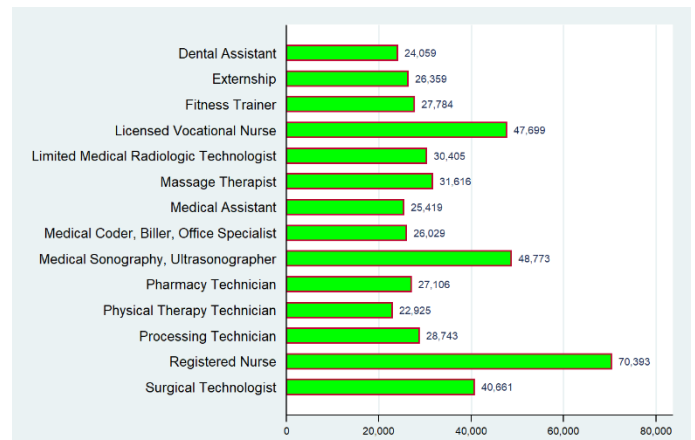


Figure 14. Students' annual salary by job titles

We observe a significant jump in CHCP graduates' annual salaries after they are placed in jobs listed in Figure 14. It is still crucial to compare the annual salary of those placed students with statewide and nationwide respective salaries. We compare annual salaries for whichever job title allowed us to make reasonable comparisons. The lower 10 percentile of the salary distribution represents people who have just started performing their jobs and people with limited job experience. Although not perfect, this category is the most suitable one for evaluating CHCP graduates' job market performance after their first placements, because we only have access to their first placements' salary information.

Another comparison we want to make is with the lower 25 percentile of salary distribution, which usually consists of people who have been employed for several years. That comparison does not make much sense in evaluating CHCP graduates' performance, but we want to show how

⁴ Some of the job categorizations are combined into one to have a more presentable figure.

CHCP graduates perform in the market in comparison with employees in the 25th percentile of income distribution, because CHCP performs better than those for some occupations.

Table 1 reports the annual salary of CHCP graduates, Texas, and the U.S. averages with respect to income percentiles. The table's second column represents CHCP graduates' first placement annual salaries, the third column is the 10th percentile of annual salary distribution of respective jobs in Texas, the fourth column is the 25th percentile of the same distribution in Texas, the fifth column stands for the U.S. averages of the 10th percentile with respect to jobs, and the sixth column is the 25th percentile of the nationwide averages.⁵ Dental assistants and ultrasonographers seem to make slightly less than their statewide and nationwide counterparts, but medical assistants, medical coders, medical billers, and pharmacy technicians are earning similar amounts to their statewide and nationwide 10th percentile comparisons. On the other hand, fitness trainers, licensed vocational nurses, massage therapists, registered nurses, and surgical technologists are not only earning more than their 10th percentile counterparts but are also earning either comparable numbers or more than their 25th percentile counterparts. Falling into 25th percentile of income distribution with the first job placements is remarkable for those job categories.

Table 1. Statewide and Nationwide Annual Salary Comparisons with CHCP Graduates Entry-Level Salaries.

	CHCP	TX Annual Low (10%)	TX Annual Low (25%)	US Annual Low (10%)	US Annual Low (25%)
Dental Assistant	24,059	27,740	33,200	28,940	34,470
Fitness Trainer	27,784	18,730	26,130	21,640	27,840
Licensed Vocational Nurse	47,699	35,670	42,180	35,570	42,060
Massage Therapist	31,616	21,560	28,920	22,580	30,010
Medical Assistant	25,419	24,800	28,250	26,930	30,360
Medical Coder, Biller	26,029	26,790	32,080	28,800	34,810
Sonography, Ultrasonographer	48,773	53,090	61,530	53,790	63,020
Pharmacy Technician	27,106	26,710	31,650	25,400	29,090
Registered Nurse	70,393	54,800	63,300	53,410	61,630
Surgical Technologist	40,661	33,430	39,060	34,120	41,010

**Note: The lower 10 percentile of the salary distribution represents people who have just started performing their jobs and people with limited job experience. The lower 25th percentile of salary distribution usually consists of people who have been employed for several years.*

⁵ These statewide and nationwide percentiles with respect to occupations are generated through onetonline.org. Some of the job titles are not presented due to a lack of equivalent job title.

Conclusion

CHCP data indicate several promising results. First, the demographic breakdown of students demonstrates CHCP's critical role in addressing the underrepresentation of minoritized populations in STEM fields by providing higher education to: (a) mostly Hispanic students, (b) people who have dependents, and (c) mostly first-generation students. Second, graduation and job placement rates clearly indicate a significant accomplishment compared to most colleges in Texas and across the country. Equipping Hispanic students with skills needed to be successful in health care occupations and helping them find jobs result has a high impact on the underserved communities and their welfare.

This analysis indicates that Hispanic students attending CHCP programs mostly graduate within the prespecified time length of the programs they attended. In addition, graduation rates of students from both certificate and associate programs are very high—averaging 78% between 2012 and 2018. The graduation rate of first-generation college students is the same as the overall Hispanic student sample, indicating that first-generation students do not experience a disadvantage in graduating from those programs.

Findings indicate that students do not struggle in finding jobs after graduating from a CHCP program. On average, 80% of students are placed in jobs following their graduation from a CHCP program.

This study demonstrates that CHCP graduates experience better outcomes in terms of graduation and job placement rates and earnings compared to statewide and nationwide statistics.

The demographic breakdown of those findings reveals that female students are more likely to graduate from CHCP programs and less likely to stay unemployed following graduation in comparison to their male counterparts. That indicates another significant positive impact of CHCP on female underrepresentation in STEM.

We find that CHCP graduates experience a significant jump in their earnings. On average, certificate holders experienced a \$17,479 increase in annual earnings, while associate degree holders earned \$31,021 more in comparison to what they were earning prior to CHCP graduation. Although the sharp rise in income was remarkable for both genders, female graduates experienced a higher percentage increase in their earnings. Given that the gender gap in income was present prior to attending CHCP programs, a higher percentage increase in female graduates' income helps mitigate the gender gap in earnings in the U.S.

Last, the economic impact of CHCP on Hispanic graduates is substantial, with significant gains in income after completing a degree or certification at CHCP. The gains in income also overly justify the investment they made to complete a CHCP program, including the time and tuition and fees they paid.

This study indicates the significant impacts of CHCP on Hispanic students in terms of college attainment, graduation, job placement, and economic improvement.

References

- Amour, M. (2020, December 17). Few positive in final fall enrollment numbers. *Inside Higher Ed*. Available at <https://www.insidehighered.com/news/2020/12/17/final-fall-enrollment-numbers-show-pandemics-full-impact>
- Bailey, T., Shanna S. J., & Davis J., (2015) *Redesigning Americas community colleges: A clearer path to student success*. Cambridge, MA: Harvard University Press.
- Belfield, C., & Bailey, T., (2017) *The labor market returns to sub-baccalaureate college: A review*. New York, NY: Teachers College, Columbia University.
- Causey, J., Harnack-Eber, A., Huie, F., Lang, R., Liu, Q., Ryu, M., & Shapiro, D. (April 2021). *COVID-19 transfer, mobility, and progress: First look spring 2021 report*. Herndon, VA: National Student Clearinghouse Research Center. Available at <https://nscresearchcenter.org/wp-content/uploads/Covid19-TransferMobilityProgress-FirstLookSpring2021.pdf>
- de Brey, C., Musu, L., McFarland, J., Wilkinson-Flicker, S., Diliberti, M., Zhang, A., Branstetter, C., & Wang, X. (2019). *Status and trends in the education of racial and ethnic groups 2018 (NCES 2019-038)*. Washington, DC: U.S. Department of Education. Available at <https://nces.ed.gov/pubsearch/>
- Hanson, M. (2021, July). *College enrollment and student demographic statistics*. Educationdata.org. Available at <https://educationdata.org/college-enrollment-statistics>
- Holzer, H., J., & Sandy B. (2017). *Making college work: Pathways to success for disadvantaged students*. Washington, D.C.: Brookings Institution Press.
- Ishitani, T. T. (2006). Studying attrition and degree completion behavior among first-generation college students in the United States. *Journal of Higher Education*, 77(5), 86–885.
- Levesque, E., M. (October, 2018). *Improving community college completion rates by addressing structural and motivational barriers*. Available at <https://www.brookings.edu/research/community-college-completion-rates-structural-and-motivational-barriers/>
- Liu, M. C. (2011). *Investing in higher education for Latinos: Trends in Latino college access and success*. Denver, CO: National Conference of State Legislatures. Available at <http://www.ncsl.org/documents/educ/trendsinlatinosuccess.pdf>
- Martinez, J., Sher, K., Krull, J., & Wood, P. (2009). Blue-collar scholars? Mediators and moderators of university attrition in first-generation college students. *Journal of College Student Development*, 50, 87–103.
- McGraw-Hill. (2019). *The equity equation*. New York: Author.
- Schneider, M. (2013). *Higher education pays: The initial earnings of graduates of Texas public colleges and universities*. American Institutes for Research. Available at https://www.air.org/sites/default/files/Texas_Graduates_Earnings_Report_4.26.13.pdf

Shapiro, D., Dundar, A., Huie, F., Wakhungu, P., Yuan, X., Nathan, A & Bhimdiwala, A. (2018, February). *Completing college: A state-level view of student completion rates* (Signature Report No. 14a). Herndon, VA: National Student Clearinghouse Research Center.

Shapiro, D., Dundar, A., Huie, F., Wakhungu, P., Yuan, X., Nathan, A & Hwang, Y., A. (2017, April). *A national view of student attainment rates by race and ethnicity – Fall 2010 cohort* (Signature Report No. 12b). Herndon, VA: National Student Clearinghouse Research Center.

Pascarella, E. T., Pierson, C. T., Wolniak, G. C., & Terenzini, P. T. (2004). First-generation college students: Additional evidence on college experiences and outcomes. *The Journal of Higher Education*, 75(3), 249–284.

About the Authors

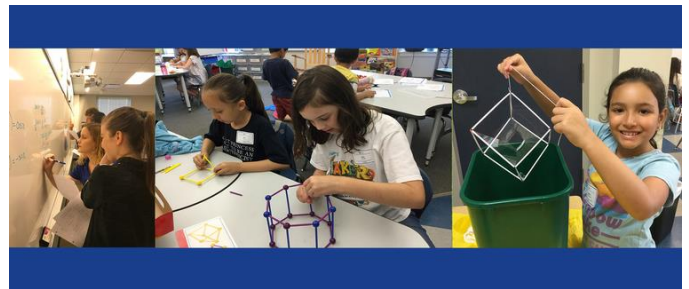
Adem Ekmekci, Ph.D., is the director of research for Rice University School Mathematics Project (RUSMP). Ekmekci earned his Bachelor of Science and Master of Science degrees in secondary mathematics education from Bogazici University, Istanbul, Turkey and earned his doctoral degree in STEM education (math focus) from the University of Texas at Austin. Ekmekci has 15 years of experience in STEM education research, including evaluation of STEM education programs and external evaluation of STEM education projects. Ekmekci has authored several peer-reviewed journal articles, conference proceedings, and book chapters related to STEM education. Ekmekci also has won several federal and foundation grants on STEM education research. More information about Ekmekci can be found here: <https://rusmp.rice.edu/about/staff/ekmekci>

Please contact Dr. Ekmekci at ekmekci@rice.edu for inquiries about this report.

Alican Odemis is a doctoral student in the department of Economics, Rice University, and a graduate research assistant at RUSMP. Odemis earned his Bachelor of Science degree in Economics from Galatasaray University, Istanbul, Turkey, and his Master of Science degree in Economics from Sabanci University, Istanbul, Turkey. His main research interest is statistical and applied economics with an emphasis on educational economics. His research consists of topics including peer effects among high school students, their educational and labor market outcomes.

About RUSMP

Rice University School Mathematics Project (RUSMP) (<https://rusmp.rice.edu/>) was established in 1987 to provide a bridge between the Rice University math research community and Houston-area math teachers. RUSMP has received funding from National Science Foundation; the U.S. Department of Education Eisenhower and Teacher Quality Programs; and from corporations, foundations, and school districts. Over time, RUSMP has evolved to be a PreK–12 STEM education and research center in the region providing professional development programs, mentoring, and coaching for K–12 teachers and student programs and camps.



RUSMP has gained a reputation for improving STEM education and conducting education research. Since its inception, RUSMP has impacted more than 10,000 teachers and teacher leaders from over 100 districts and private and charter schools, and over 14,000 K–12 students have benefited from RUSMP programs.

